10

15

20

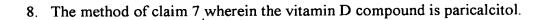


WE CLAIM:

- 1. A method of determining the initial dose of a vitamin D compound, comprising:
- a) measuring a patient baseline PTH value,
- b) determining the *final dose*,
 - c) applying the baseline PTH and final dose to regression analysis,
 - d) calculating the *initial dose* of the *vitamin D compound*.
 - 2. The method of claim 1 wherein the linear model is a zero intercept linear model.
 - 3. The method of claim 1 wherein the vitamin D compound is a vitamin D_2 compound.
 - 4. The method of claim 3 wherein the vitamin D_2 compound is paricalcitol.
 - 5. The method of claim 4 wherein the initial dose is bPTH/80.
 - 6. The method of claim 1 further comprising administration of the initial dose to the patient.
 - 7. A method of treating elevated PTH in a patient commencing treatment for ESRD, the method comprising:
 - (a) determining the initial dose of a vitamin D compound, and
 - (b) administering the initial dose of the vitamin D compound to the patient.

25

10



- 9. The method of claim 8 wherein the initial dose is about bPTH/80.
- 5 10. A method of treating a patient undergoing vitamin D therapy for ESRD wherein the initial dose administered to the patient is about bPTH/80.
 - 11. A method of treating a patient undergoing vitamin D therapy for secondary hyperparathyroidism wherein the initial dose administered to the patient is about bPTH/80.
 - 12. A method of using a zero-intercept linear regression model to determine the initial dose of a vitamin D compound.
- 13. A method of treating a patient undergoing vitamin D therapy for ESRD wherein a zero-intercept regression model is used to determine the initial dose of the vitamin D compound.
- 14. The method of claim 13, wherein the vitamin D compound results in the
 prevention or treatment of renal osteodystrophy or secondary
 hyperparathyroidism.
 - 15. The method of claim 8 wherein the initial dose is at least 1 mcg.